California Energy Commission

STAFF REPORT

Mechanical Acceptance Test Technician Certification Provider Application Review: California State Pipe Trades Council

Staff Compliance Review of the *2013 California Building Energy Efficiency Standards*

California Energy Commission

Edmund G. Brown Jr., Governor

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ABSTRACT

Staff evaluated the California State Pipe Trades Council application, which was submitted on January 13, 2016, pursuant to Section 10-103-B(f) of the *2013 Building Energy Efficiency Standards* (codified in Title 24, Part 6 of the California Code of Regulations). The application submitted by the California State Pipe Trades Council complies with the requirements of Section 10-103-B(c) of the *2013 Building Energy Efficiency Standards.*

Keywords: Nonresidential Mechanical Acceptance Test Technician Certification Provider, California State Pipe Trades Council, HVAC, Title 24, United Association

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EXECUTIVE SUMMARY

The Acceptance Test Technician Certification Provider program provides training, certification, and oversight of Acceptance Test Technicians that perform the acceptance tests required by the *2013 Building Energy Efficiency Standards* (Energy Standards) (codified in Title 24, Part 6 of the California Code of Regulations) as well as Acceptance Test Employers. The Acceptance Test Technician Certification Provider programs are made available by professional organizations that are required to provide training curricula for test technicians and employers, certification procedures, complaint resolution (including disciplinary procedures), quality assurance, and accountability measures. Acceptance testing ensures that installed equipment, controls, and systems in nonresidential buildings operate as required by the Energy Standards.

The California State Pipe Trades Council, a labor union representing plumbers, pipefitters, and heating, ventilation, air conditioning, and refrigeration service technicians, submitted its application to the California Energy Commission for approval as a nonresidential mechanical Acceptance Test Technician Certification Provider on January 13, 2016.

The California Pipe Trades Council's application was evaluated pursuant to Section 10-103-B(f) of the Energy Standards, which require staff review nonresidential mechanical Acceptance Test Technician Certification Provider applications according to the criteria and procedures set forth in Section 10-103-B(c).

The sections of the application pertaining to Sections 10-103-B(c)1 through 10-103-B(c)3 were summarized, and staff determined that the application met each corresponding requirement and is in compliance with the requirements of Section 10-103-B(c).

CHAPTER 1: Introduction

The Acceptance Test Technician Certification Provider (ATTCP) Program provides training, certification, and oversight of Acceptance Test Technicians[1] (ATTs) who perform the acceptance tests required by California's *2013 Building Energy Efficiency Standards*[2] (Energy Standards), as well as Acceptance Test Employers[3] (ATEs) that employ ATTs. ATTCPs are professional organizations required to provide training curriculum for technicians and their employers, certification procedures, complaint resolution (including disciplinary procedures), quality assurance, and accountability measures.

Acceptance testing ensures code compliance and promotes optimization of efficiency and performance for nonresidential buildings. These tests serve to determine whether specific building components, equipment, and interfaces between systems conform to criteria set forth in the Energy Standards. Chapter 13 of the *2013 Nonresidential Compliance Manual* contains more information about acceptance testing.

The California State Pipe Trades Council (CSPTC) submitted an application to the California Energy Commission for approval as a Nonresidential Mechanical ATTCP on January 13, 2016. The CSPTC is a non-profit labor organization representing thousands of HVACR technicians, plumbers, and pipefitters in local unions across the state.

Staff has completed its evaluation of CSPTC's application in accordance with Section 10-103-B(f) of the Energy Standards, which requires review of ATTCP applications according to the criteria and procedures set forth in Section 10-103-B(c).

The relevant sections from CSPTC's application as they pertain to Section 10-103-B(c)1 through Section 10-103-B(c)3 were summarized. Furthermore, staff assessed whether CSPTC's application met other sections not explicitly listed in Section 10-103-B, but germane to acceptance testing. This report follows the same section order as the Energy Standards to provide additional clarity.

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1 Acceptance Test Technician is a Field Technician as defined in Title 24, Part 1, Chapter 10, Section 10-102 of the California Building Code who is certified by an authorized Acceptance Test Technician Certification Provider pursuant to the requirements of Sections 10-103-A or 10-103-B.

2 All references hereafter are to the 2013 Building Energy Efficiency Standards (codified in Title 24, Part 6 of the California Code of Regulations) unless otherwise specified.

3 Acceptance Test Employer is a person or entity who employs an Acceptance Test Technician and is certified by an authorized Acceptance Test Technician Certification Provider pursuant to the requirements of Sections 10-103-A or 10-103-B.

CHAPTER 2:
Qualifications and Approval of Certification Providers

Requirement

Prospective ATTCPs shall submit a written application to the Energy Commission with a summary, all required background documents, including explanations of organization structure, certification procedures, training curriculum, and other supporting material to demonstrate compliance with the criteria, and procedures set forth in Section 10-103-B(c).

Summary of Compliance Method for Applicant

CSPTC submitted its application to the Energy Commission for approval as a nonresidential mechanical ATTCP on January 13, 2016.

On January 13, 2016, the Energy Commission approved CSPTC's application request seeking confidentiality for curriculum and testing materials as part of its efforts to become a nonresidential mechanical ATTCP[4]. The confidential material consists of training curriculum and modules addressing various technical areas in which an ATT and an ATE would need to demonstrate competence before being certified.

Staff Assessment

Staff analyzed how the confidential portions of CSPTC's application met the requirements of Section 10-103-B(c) and found them to be in complete compliance with Section 10-103-B. A discussion of CSPTC's compliance with each individual requirement is in this report.

4 Approval of confidentiality docketed 13-ATTCP-01, TN 207292, January 13, 2016.

CHAPTER 3:
Applicant ATTCPs to Document Organizational Structure

Requirement

The ATTCP shall provide written explanations of the organization type, bylaws, and ownership structure. The ATTCP shall explain in writing how its certification program meets the qualifications of Section 10-103-B(c), and how its organizational structure and procedures include independent oversight, quality assurance, supervision, and support of the acceptance test training and certification processes.

Applicant Background and Summary of Compliance Method

CSPTC identifies itself as a labor union organization representing thousands of heating, ventilation, air conditioning, and refrigeration (HVACR) technicians, plumbers, and pipefitters in local unions across the state. CSPTC purports that its highly skilled members are capable of meeting and exceeding the challenges of our growing state. In 1978, the CSPTC joined the United Association (UA), which is an international labor union representing plumbers, welders, pipefitters, and service technicians in the United States and Canada. Since its inception in 1889, the UA has represented the pipe trades for over 125 years, and is committed to providing the most highly skilled workforce in the industry.

The CSPTC consists of local unions throughout California that offer careers and training in plumbing, pipefitting, steam fitting, air conditioning and refrigeration, fire sprinkler fitting, and irrigation fitting industries. The CSPTC application identifies 26 of these local unions and provides contact information for them. The main CSPTC office, located in Sacramento, provides executive leadership for the local member unions. Additionally, the CSPTC provides the top-level leadership structure from their parent national affiliation (UA) including executives, district board members, and general officers that oversee national operations.

While CSPTC maintains overall control of the ATTCP program, National Inspection Testing Certification (NITC) will provide certification services including quality assurance, administering and managing instruction and exams, and providing certification renewal services. NITC has experience in classroom training and practical “hands-on” testing. NITC is International Organization for Standardization (ISO)

9001:2008[5] certified and has three certification schemes accredited under the rigorous American National Standards Institute (ANSI)/International Organization for Standardization (ISO)/International Electro-technical Commission (IEC) 17024[6]. NITC provides the prerequisite UA STAR HVACR Mastery certification program that demonstrates mastery of the trade and shows experience in operations, planning, blueprint reading, safety, and the practical installation, repair, and service of HVACR systems. Installation, repair, and service of HVACR systems include the design, construction, installation, alteration, repair, service, and maintenance of all boilers, HVAC air handling systems, refrigeration piping systems, and process piping heating and cooling systems in residential, commercial, and industrial settings. Field implementation of certification processes and procedures will include, but not be limited to the following:

- Pre-qualifying UA HVACR Nonresidential Mechanical ATTs prior to participation in the certification course and certification exam.
- Pre-qualifying UA ATEs prior to participation in the certification course and certification exam.
- Proctoring Nonresidential Mechanical ATT certification examinations.
- Proctoring Nonresidential Mechanical ATE certification examinations.
- Issuing a unique identification number to each Nonresidential Mechanical ATT and ATE.
- Listing certified UA Nonresidential Mechanical ATT and ATE on the NITC website.
- Performing an annual audit of Nonresidential Mechanical ATEs and ATTs.
- Providing an annual report to CSPTC.

In an agreement with CSPTC, the ESCO Group will provide data management services necessary for completing Nonresidential Certifications of Acceptance (NRCA)[7] forms for submittal to local jurisdictions. The ESCO Group provides custom software development, certification (professional, industry, and government), and professional development to educators and trainers in the HVACR industry. Additionally, the ESCO Group will use its proprietary software to aid in distributing the workload to available certified technicians and employers.

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5 The International Organization for Standardization (ISO) 9001:2008 is a quality management system standard designed to help organizations ensure that they meet the needs of customers and other stakeholders while meeting statutory and regulatory requirements related to a product.

6 American National Standards Institute (ANSI)/International Organization for Standardization (ISO)/International Electro-technical Commission (IEC) Standard 17024 is an international standard which specifies criteria for the operation of a personnel certification body. The standard includes requirements for the development and maintenance of the certification scheme for persons upon which the certification is based.

7 The California Energy Commission provides residential and nonresidential compliance forms to collect data used to verify Energy Standard compliance. The Nonresidential Certifications of Acceptance (NRCA) series addresses the acceptance testing for mechanical systems required in section 120.5.

Staff Assessment

CSPTC is a non-profit labor union that is tax exempt under the Internal Revenue Code Section 501(c)(3). The CSPTC uses the Employer Identification Number (EIN) 940360606. Staff has verified through the IRS that this EIN is registered to CSPTC, and that CSPTC is a 501(c)(3) exempt organization in good standing.

The bylaws provided by CSPTC are consistent with an affiliation serving the industry interests to assure quality products and services. The organization has the appropriate structure, which includes standing committees, a board of directors, and appointed officers.

Staff determines the organization is in direct control of the proposed ATT/ATE application. Furthermore, the submitted educational material and proposed certification processes are consistent with the goals of the ATTCP requirements. A summary of compliance with Section 10-103-B(c)1 is found in **Table 1**.

Table 1: Summary of Application Compliance (Section 10-103-B[c]1)

REQUIREMENT TYPE	LOCATION IN APPLICATION	DATA ADEQUATE	NEED MORE INFO
Organization	501(c)(3) - Non-Profit Labor Union	X	
Ownership Structure	CSPTC joined the UA in 1978.	X	
Bylaws	http://www.uacanada.ca/pdf/UA_Constitution_2011.pdf	X	
Quality Assurance of the Certification Process	Filename: TN-211956-1 Application for Acceptance Test Technician Certification Prov.pdf: Quality Assurance and Accountability	X	
Independent Oversight	Filename: TN-211956-1 Application for Acceptance Test Technician Certification Prov.pdf: Appendix G Quality Assurance and Accountability Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016	X	
Supervision	Filename: TN211956-2 Appendix A CA Locals Filename: TN211956-16 Appendix G UA Leadership	X	
Support of Acceptance Test Training and Certification Processes	Filename: TN-211956-1 Application for Acceptance Test Technician	X	

	Certification Prov.pdf: Appendix G Quality Assurance and Accountability Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016		

Source: California Energy Commission

CHAPTER 4:
Certification of Employers

Requirement

The ATTCP shall provide written explanation of how its program includes certification and oversight of ATEs to ensure quality control and appropriate supervision and support for ATTs.

Summary of Compliance Method for Applicant

The CSPTC application describes the eligibility requirements for becoming a nonresidential mechanical ATE. Each ATE, or signatory contractor, must agree to comply with the Energy Standards and adhere to any regulations pertaining to Title 24 that are adopted by the Energy Commission. The ATE must conform to the terms of the *Certification Handbook for Contractors and Technicians* by NITC and participate in the NITC Quality Assurance Program. The ATE must only employ UA HVACR technicians and utilize only UA ATTs for executing the NRCA documentation. The ATE will train administrators on how to handle and process each NRCA form, such as submitting all forms within 48 hours of completion to a data registry approved by the Energy Commission and in compliance with Joint Appendix JA-7 of the Energy Standards. ATEs must adhere to industry standard business practices.

Every ATE shall provide proof of registration, licensing, and bonding that meet all state and local requirements. In addition, ATEs of UA ATTs shall have an EIN and maintain applicable local business licenses and tax certificates. ATEs shall carry appropriate liability insurance and workers' compensation insurance.

Furthermore, ATEs shall maintain an Injury and Illness Prevention Program and a Code of Safe Practices that meet the state requirements. Each ATE must ensure that it has the necessary serviceable and calibrated tools, equipment and instruments available for conducting mechanical acceptance testing work.

Staff Assessment

Staff finds that the above requirements for eligibility submitted by CSPTC for its certification of potential ATEs meet the requirements of Section 10-103-B(c)2. Staff agrees the testing procedures give CSPTC the tools necessary to provide oversight of ATEs. A summary of compliance with Section 10-103-B(c)2 is found in **Table 2**.

Table 2: Summary of Application Compliance (Section 10-103-B[c]2)

REQUIREMENT TYPE	LOCATION IN APPLICATION	DATA ADEQUATE	NEED MORE INFO
Certification of ATE	Filename: TN-211956-1 Application for Acceptance Test Technician Certification Prov.pdf: Appendix G Employer Training and Certification Procedure Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016	X	
Oversight of ATE	Filename: TN-211956-1 Application for Acceptance Test Technician Certification Prov.pdf: Appendix G Employer Training and Certification Procedure Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016	X	

Source: California Energy Commission

CHAPTER 5:
Hands-On Experience and Theoretical Training

Requirement

ATTCPs shall provide both hands-on experience and theoretical training such that ATTs may demonstrate their abilities to apply the Energy Standards acceptance testing and documentation requirements to a comprehensive variety of mechanical systems and controls that are reflective of the range of systems encountered in the field.

Summary of Compliance Method for Applicant

The CSPTC will offer training and certification to UA HVACR technicians in good standing through approved local offices. The local office must have certified UA instructors as well as the appropriate mechanical equipment for hands-on training. The Title 24 Certification training course will include:

- A minimum of 40 hours of classroom instruction and hands-on laboratory training
- Theoretical training on the content of the Energy Standards
- Hands-on instruction on completing the mechanical acceptance tests using the mechanical equipment
- One instructor to fifteen trainees for classroom instruction
- Two instructors to fifteen trainees for laboratory/hands-on instruction
- Written and practical tests that demonstrate competency of each participant
- Mandatory continued education on Energy Standards' updates adopted by the Energy Commission.

Staff Assessment

Staff has evaluated CSPTC's confidential training materials contained within the Mechanical Acceptance Test Technician Training Course to Sections 10-103(c)A and 10-103(c)B(i), the Nonresidential Mechanical Certificate of Acceptance forms (the NRCA-MCH series), and the Nonresidential Building Energy Efficiency Standards Reference Appendices. Chapter 7 (Hands-on Training) of this report contains an assessment of whether the proposed laboratory training complies with Section 10-103-B(c)3B(ii).

In addition to training materials addressing the systems and controls listed in Section 10-103-B(c)3B(i), CSPTC submitted training material addressing Energy Management Control Systems and Supply Water Temperature Reset Controls within its application. These training materials demonstrate completeness, provide evidence of compliance with Section 10-103-B(c)(A) and Section 120.5(a)17, and provide procedures for completing the NRCA-MCH-18 form.

A summary of compliance with Section 10-103- B(c)3A is found in **Table 3**.

Table 3: Summary of Application Compliance (Section 10-103-B[c]3A)

REQUIREMENT	LOCATION IN APPLICATION	DATA ADEQUATE	NEED MORE INFO
Theoretical Training	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider: Technician Training and Certification Procedure Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016	X	
Hands-On Experience	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider: Technician Training and Certification Procedure Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016	X	

Source: California Energy Commission

CHAPTER 6:
Mechanical Acceptance Test Technician Training Curricula

Requirement

ATTCPs shall provide a complete copy of all training and testing procedures, manuals, handbooks, educational materials, and a written explanation of how training and certification procedures include, but are not limited to, the requirements in Sections 10-103-B(c)3A through 10-103-B(c)3G.

ATTCP training curricula for mechanical ATTs shall include, but not be limited to, the analysis, theory, and practical application of:

- Constant volume system controls.
- Variable volume system controls.
- Air-side economizers.
- Air distribution system leakage.
- Demand-controlled ventilation with CO_2 sensors
- Demand-controlled ventilation with occupancy sensors.
- Automatic demand shed controls.
- Hydronic valve leakage.
- Hydronic system variable-flow controls.
- Supply air temperature reset controls.
- Condenser water temperature reset controls.
- Outdoor air ventilation systems.
- Supply fan variable-flow controls.
- Boiler and chiller isolation controls.
- Fault detection and diagnostics for packaged direct-expansion units.
- Automatic fault detection and diagnostics for air-handling units and zone terminal units.
- Distributed energy storage direct-expansion air conditioning systems.
- Thermal energy storage systems.
- Building Energy Efficiency Standards mechanical acceptance testing procedures.
- Building Energy Efficiency Standards acceptance testing compliance documentation for mechanical systems.

Summary of Compliance Method for Applicant

CSPTC submitted all the mechanical training material to cover the curricula requirements listed in Section 10-103-B(c)3B(i). The technical material is confidential; therefore, staff's evaluation of its compliance is available only in this public document.

Staff Assessment

Staff evaluated the confidential materials in accordance with the Energy Standards. Staff reviewed all the training materials and determined CSPTC provides adequate documentation to comply with the mechanical acceptance testing requirements of Section 10-103-B(c)3B(i). There are no significant deviations from the 2013 Nonresidential Compliance Manual; therefore, staff accepts the training material as acceptable instruction. A summary of compliance with Section 10-103-B(c)3B(i) is found in **Table 4**.

Table 4: Summary of Application Compliance (Section 10-103-B[c]3B[i])

REQUIREMENT TYPE	LOCATION IN APPLICATION	DATA ADEQUATE	NEED MORE INFO
Constant Volume System Controls	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 137-162)	X	
Variable Volume System Controls	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 99-136)	X	
Air-Side Economizers	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 185-230)	X	
Air Distribution System Leakage	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 163-184)	X	
Demand Controlled Ventilation With CO_2 Sensors	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 231-252)	X	
Automatic Demand Shed Controls	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 305-312)	X	
Hydronic Valve Leakage	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 269-276)	X	
Hydronic System Variable Flow Controls	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 291-304)	X	
Supply Air Temperature Reset Controls	Filename: Confidential – TN-211981 Appendix B	X	

	CEC Revisions Title 24 ATT_Manual_61416 (pages 363-378)		
Condenser Water Temperature Reset Controls	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 379-398)	X	
Outdoor Air Ventilation Systems	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 99-162)	X	
Supply Fan Variable - Flow Controls	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 253-268)	X	
Supply Water Temperature Reset Controls	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 277-290)	X	
Fault Detection and Diagnostics for Packaged Direct- Expansion Units	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 313-322)	X	
Automatic Fault Detection and Diagnostics for Air Handling Units and Zone Terminal Units	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 323-337)	X	
Distributed Energy Storage Direct - Expansion Air Conditioning Systems	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages338-348)	X	
Thermal Energy Storage Systems	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 349-362)	X	
Energy Management Control System Acceptance	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416 (pages 399-401)	X	
Energy Code Mechanical Acceptance Testing Procedures	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416	X	
Energy Code Acceptance Testing Compliance Documentation for Mechanical Systems	Filename: Confidential – TN-211981 Appendix B CEC Revisions Title 24 ATT_Manual_61416	X	

Source: California Energy Commission

CHAPTER 7:
Hands-On Training

Requirement

The ATTCP shall describe in its application the design and technical specifications of the laboratory boards, equipment, and other elements that trainers will use to meet the hands-on requirements of the training and certification.

Summary of Compliance Method for Applicant

CSPTC will offer a minimum of 40 hours of hands-on equipment laboratory instruction. To demonstrate competency in a technician's qualifications and skill levels in heating, air conditioning, refrigeration, and plumbing, the CSPTC will use the UA STAR HVACR Mastery certification program as a prerequisite to enrolling in the ATT and ATE training. The STAR HVACR Mastery program is a nationally recognized certification. A STAR HVACR Mastery certification demonstrates mastery of the trade and shows experience in operations, planning, blueprint reading, safety, and the practical installation, repair, and service of HVACR systems. Installation, repair, and service of HVACR systems include the design, construction, installation, alteration, repair, service, and maintenance of all boilers, HVAC air handling systems, refrigeration piping systems, and process piping, heating, and cooling systems in residential, commercial, and industrial settings. Many local union offices will use a passing score on the exam at the end of this program to signify completion of the apprenticeship. In some areas, UA STAR certification is mandatory for wage increases or for obtaining employment.

CSPTC offers training sites statewide for their Apprentice Training Program. There are 13 apprenticeship program locations in Southern California and in 15 locations in Northern California. An approved facility must have certified UA instructors as well as the necessary mechanical equipment for hands-on training. The Northern California locations with access to a nearby training facility are in the following cities: Burlingame, Castroville, Concord, Fresno, Hayward, Martinez, Modesto, Oakhurst, Sacramento, San Francisco, San Jose, Tualatin, Vallejo, and Yuba City. The Southern California programs are available through A&J Training Trust of Southern California and at the Joint Journeyman Apprentice Training Centers (JATC)/HVACR. A&J Training Trust of Southern California with locations in Bakersfield, Colton, Compton, Gardena, Orange, San Diego, San Luis Obispo, Buelton, Van Nuys, and Oxnard. The Joint JATCs have locations in Los Angeles, San Diego, Colton, Bakersfield, and Orange.

Staff Assessment

Hands-on (or laboratory) education and experience allows ATTs to apply the knowledge gained in the classroom on evaluating situations and applying troubleshooting procedures during HVACR systems installation or maintenance to fieldwork.

Staff visited three CSPTC facilities (located in San Jose, Los Angeles, and Sacramento) and determined the centers have appropriate training equipment (similar, if not identical, for all the locations), experienced instructors, and are capable of providing all the required training. The training equipment that will be used for thermal energy storage (and may be used for distributed energy storage direct expansion air conditioning system training as well, when needed) is currently being kept at the Los Angeles (UA Local 250) facility. All participating locations may use the training simulator when needed, as it is a mobile unit. The unit is not a functioning thermal energy storage system like an ice storing air conditioner that a technician may see in the field, but rather a more versatile, state-of-the-art training device that has the ability to simulate different scenarios that a technician may encounter for a different range of thermal energy storage types. This equipment not only meets, but also exceeds the intent of the requirement. A summary of compliance with Section 10-103-B(c)3B(iii) is found in **Table 5**.

Table 5: Summary of Application Compliance (Section 10-103-B[c]3B[ii])

REQUIREMENT TYPE	LOCATION IN APPLICATION	DATA ADEQUATE	NEED MORE INFO
Hands-On Experience	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider: Technician Training and Certification Procedure	X	

Source: California Energy Commission

CHAPTER 8:
Prequalification Requirement

Requirement

Participation in the technician certification program shall be limited to persons who have at least three years of verifiable professional experience and expertise in mechanical controls and systems as determined by the mechanical ATTCPs to demonstrate an ability to understand and apply the mechanical ATT certification training. The criteria and review processes used by the ATTCP to determine the relevance of technician professional experience shall be described in the ATTCP application to the Energy Commission.

Summary of Compliance Method for Applicant

CSPTC proposed a certification process that requires each ATT applicant to be a journey worker that has successfully completed the UA apprenticeship program; passed the UA HVACR Star Exam; completed the Green Professional Trades Training course; completed the Start, Test, and Balance course; and completed the Energy Auditing Practices course. To qualify as a journey worker, the technician must demonstrate five years of field experience and expertise in HVAC controls and systems as determined by CSPTC. The applicant must receive passing scores on the final exams for each of the prerequisite courses listed below:

- GPRO – Green Professional Trades Training: A course teaching the principles of sustainability combined with knowledge of high performance mechanical systems to the people who build, renovate, and maintain buildings.
- Start, Test, and Balance: A course designed to teach the general knowledge and theory needed when using testing and measuring instruments to perform procedures for testing, balancing, and adjusting mechanical systems.
- Energy Auditing Practices: A course designed to increase the skills and knowledge of the technician in order to improve the energy efficiency of any building without sacrificing comfort, health, and safety.

Additionally, the applicant must pass a written entrance exam to show a competency level to perform acceptance tests. CSPTC will score the exam and notify the applicant of the results.

Staff Assessment

Staff determined CSPTC performs a sufficient evaluation of candidates for prequalification into the ATT certification program in accordance with Section 10-103-B(c)3B(iii). Based upon the minimum years of experience, technician application, and entrance exam, CSPTC provides ample evidence to ensure a high level of competency for

its certified technicians in mechanical controls and systems. A summary of compliance with Section 10-103-B(c)3B(iii) of the Energy Standards is found in **Table 6**.

Table 6: Summary of Application Compliance (Section 10-103-B[c]3B[iii])

REQUIREMENT TYPE	LOCATION IN APPLICATION	DATA ADEQUATE	NEED MORE INFO
Three Years of Experience and Expertise in Mechanical Controls and Systems	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider: Mechanical Acceptance Test Technician Eligibility	X	
Description of the Criteria and Review Process	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider: Mechanical Acceptance Test Technician Eligibility	X	

Source: California Energy Commission

CHAPTER 9:
Instructor-to-Trainee Ratio

Requirement

A sufficient ratio of instructors to participants in classroom and laboratory work ensures integrity and efficacy of the curriculum and program. The ATTCP shall document in its application to the Energy Commission why its instructor-to-trainee ratio is sufficient based on industry standards and other relevant information.

Summary of Compliance Method for Applicant

CSPTC states that its instructor to student ratio is one to fifteen for classroom instruction. For hands-on training in the laboratory or shop floor, the ratio varies according to the complexity of the training, but does not fall below two instructors to fifteen trainees.

CSPTC bases these ratios on years of experience in training and laboratory procedures for understanding of concepts, completion of work, and safe operation of laboratory facilities. Instructors find that more than twelve students are difficult to manage, as the laboratory environment requires a great deal of interaction. Typically, teacher assistants are also present to help students use the equipment.

Staff Assessment

Based on the significant experience of both CSPTC and UA in offering training programs in the industry, Energy Commission staff deems the proposed ratios of instructors to participants as acceptable for classroom and laboratory work to ensure the integrity and efficacy of the curriculum and program. A summary of compliance with Section 10-103-B(c)3B(iv) is found in **Table 7**.

Table 7: Summary of Application Compliance (Section 10-103-B[c]3B[iv])

REQUIREMENT TYPE	LOCATION IN APPLICATION	DATA ADEQUATE	NEED MORE INFO
Documentation of Instructor to Trainee Ratio	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider: Technician Training and Certification Procedure	X	

Source: California Energy Commission

CHAPTER 10:
Testing

Requirement

A written and practical test shall demonstrate each certification applicant's competence in all specified subjects. The ATTCPs shall retain all results of these tests for five years from the date of the test. The applicant must maintain any testing requirements to an exacting standard to ensure relevancy to the subject material, competent testing results, and testing security of not only the test questions, but also the test-taking environment.

Summary of Compliance Method for Applicant

Under the direction of CSPTC, NITC will manage the database, as it does for over 10,000 certification holders in other disciplines. The database entries will include names, addresses, dates of expiration, and examination history. This information will be searchable on the NITC website. Examination history includes where the technician took the exam, score, exam proctor, and instructor. Using Integrated Software's "Certification Manager," the NITC is able to send out automatic expiration notices and renewal reminders (120 days before expiration) to help certification holders maintain their credentials.

Examinations shall be kept secure and shall not be accessible to anyone who is not involved in the examination process. All individuals involved in the examination process shall sign the required confidentiality declaration.

Staff Assessment

Staff reviewed the exam questions submitted by the applicant and considers them comprehensive with respect to the acceptance testing requirements, the Energy Standards, and the requirements of the applicant's proposed ATTCP program. Staff feels the exam ensures that an ATT receiving a passing score has learned the subject material and has demonstrated sufficient competency to successfully perform mechanical acceptance tests, complete the acceptance test forms, and appropriately submit those forms to the regulating agencies.

NITC maintains accreditation by ANSI/ISO/IEC and as a result must demonstrate significant independent oversight of certification activities. This accreditation extends to the ATT certification process, which CSPTC is proposing in its application. As part of the ANSI/ISO/IEC 17024 accreditation, the applicant must maintain any testing requirements to an exacting standard to ensure relevancy to the subject material, competent testing results, and testing security of not only the test questions, but also the test-taking environment. Staff found the NITC database shows certification dates

and information available for various other disciplines exceeding five years. Therefore, it is clear that NITC retention policy exceeds the requirements.

Staff finds that CSPTC, in conjunction with NITC, described in sufficient detail a testing program that confirms an ATT's competency in all specified subjects. Additionally, ANSI/ISO/IEC 17024 accreditation ensures CSPTC will remain compliant to Section 10-103-B(c)3B(v) as updates are made to the Energy Standards. A summary of compliance with Section 10-103-B(c)3B(v) is found in **Table 8**.

Table 8: Summary of Compliance (Section 10-103-B[c]3B[v])

REQUIREMENT TYPE	LOCATION IN APPLICATION	DATA ADEQUATE	NEED MORE INFO
Retention of ATT Testing Results	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider: NITC Management of Certification Programs Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016	X	

Source: California Energy Commission

CHAPTER 11: Recertification

Requirement

The ATTCP shall recertify all ATTs and ATEs prior to the implementation of each adopted update to the Energy Standards, as these updates affect the acceptance test requirements. Recertification requirements and procedures shall only apply to those specific elements that are new or modified in future updates to the Energy Standards.

Summary of Compliance Method for Applicant

CSPTC requires renewals for all certification holders (ATTs and ATEs), after the revision of sections of the Energy Standards that deal with mechanical acceptance tests. At the time of renewal, each certification holder must meet all qualifications and requirements for the initial certification. Both ATTs and ATEs must take and pass the relevant testing to renew their certifications.

According to the rules and procedures set forth by NITC, the recertification examination shall be based on the most current edition of the Energy Standards. NITC examinations will be updated because of changes in codes/standards, industry procedures and any technical advancements that may affect the safety and health conditions, and specific client requirements. The updated examinations will be triple checked for accuracy, and then the certification subcommittee will approve the changes or amendments. Upon approval by the NITC Certification Scheme Committee (which consists of volunteer subject matter experts) of the updated and new certifications, notifications of the updated certification(s) shall be communicated to certified personnel and stakeholders.

Examinations may be written or oral, closed or open book, and proctored or not proctored. Upon achieving a passing score on the prescribed recertification examination(s), the certification shall be renewed from the recertification examination date and a wallet certification card reissued.

Furthermore, individuals who fail to pass the initial recertification examination shall be permitted to retake another examination as soon as one can be scheduled. Failure to pass a recertification examination twice may result in a candidate taking a refresher course before taking the exam a third time.

Staff Assessment

Staff finds the recertification procedures submitted for review are practical and sufficient to adequately comply with the requirements specified in Section 10-103-

B(c)3B(vi). A summary of compliance with Section 10-103-B(c)3B(vi) is found in **Table 9**.

Table 9: Summary of Application (Section 10-103-B[c]3B[vi])

REQUIREMENT TYPE	LOCATION IN APPLICATION	DATA ADEQUATE	NEED MORE INFO
Discussion of Recertification Procedures	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider: NITC Rules and Procedures: Re-certifications Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016	X	

Source: California Energy Commission

CHAPTER 12: Mechanical Acceptance Test Employer Training

Requirement

Training for mechanical acceptance test employers shall consist of a single class or webinar consisting of at least four hours of instruction covering the scope and process of the acceptance tests in Section 120.5.

Summary of Compliance Method for Applicant

The training proposed by CSPTC for Nonresidential Mechanical ATEs requires that the ATE must complete at least four hours of instruction covering the scope and process of the acceptance tests described in Section 120.5. Furthermore, all ATEs must pass the Employer Exam to gain credit for completing the instruction course.

Staff Assessment

Staff assessed the proposed training (which is confidential), concluded that it will be adequate to give perspective employers the foundational understanding of the tasks and scope of work performed by ATTs and will be over four hours in length. Staff deemed CSPTC's employer training complies with the requirement. A summary of compliance with Section 10-103-B(c)3C is found in **Table 10**.

Table 10: Summary of Application Compliance (Section 10-103-B[c]3C)

REQUIREMENT TYPE	LOCATION IN APPLICATION	DATA ADEQUATE	NEED MORE INFO
Minimum Employer Training	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider: Employer Training and Certification Procedure	X	

Source: California Energy Commission

CHAPTER 13:
Complaint Procedures

Requirement

An ATTCP shall submit written procedures for notifying building departments and the public that they will accept complaints regarding the performance of any certified ATT or ATE, and procedures for how the ATTCP will address these complaints.

Summary of Compliance Method for Applicant

Since NITC is accredited by ANSI/ISO/IEC 17024, which includes measures to ensure a method exists to process complaints, then the ATTCP effectively is in accordance with the requirements of Section 10-103-B(c)3D. Concerning the certifications, any party may file a complaint with NITC for problems that arise which are unrelated to the content of the examination. NITC proclaims that it treats all complaints and complainants fairly and equitably. A complaint will be confidential as it relates to the complainant and to the subject of the complaint. Personnel not previously involved in the subject of the complaint, avoiding any conflicts of interest, will make, review and approve communications on any decisions regarding the complaints. Any substantiated complaint about a certified person shall be referred to the Certification Scheme Committee and a notification sent to the questioned. Site visits or site audits by NITC may result as part of the investigation with a view to resolving the issue. All written complaints filed to NITC (other than exam challenges) shall follow this procedure:

- A complainant may file a complaint at any time. Complainants shall report issues relating to a specific event within 30 days of the event or as soon as possible after the issues come to the attention of the complainant.
- Written complaints shall be filed and received via the United States Postal Service or facsimile to the following:

  National Inspection Testing Certification

  501 Shatto Place, Suite 201, Los Angeles, CA 90020

  Fax: (213) 382-2501
- Every written complaint will elicit an investigation and response. NITC management shall be responsible for gathering and verifying all necessary information to validate the complaint. NITC may apply corrective actions when appropriate.
- NITC must provide a written response detailing the outcome of the investigation within 30 days of receipt of such complaints. If there is no outcome after 30 days, NITC will provide progress reports to the complainant until the matter is resolved.

If the complainant deems the response of NITC unsatisfactory, the complainant may send a written letter of appeal to NITC. The NITC Certification Scheme Committee and NITC Board of Directors will hear appeals.

Additionally, the ESCO Group will provide a web portal for the intake and processing of complaints from any local enforcement agency, other permitting agency, and/or the public, concerning the performance of certified UA ATTs or ATEs. After preliminary screening to validate its relevancy to the project, the ESCO Group will notify CSPTC of the complaint to allow it to process the complaint appropriately. CSPTC will follow similar methods to how NITC describes herein. CSPTC expects that the customer complaints will be resolved between the customer and the ATE. Customer complaints, which are brought to the attention of CSPTC, will result in investigation and potentially site visits or site audits.

Staff Assessment

CSPTC will make the complaint process public and available upon approval of its application. Currently, CSPTC has submitted to the Energy Commission this item under confidentiality. The complaint resolution process will be included in training and outreach materials to local building departments. Staff determined that CSPTC's proposed process for addressing complaints is reasonably transparent and fair to both the complainant and the ATT/ATE. The process provides many opportunities for a balanced resolution. Staff determined that the proposed procedures are sufficient to comply with the requirements of Section 10-103-B(c)3D. A summary of compliance with the Section 10-103-B(c)3D is found in **Table 11**.

Table 11: Summary of Application Compliance (Section 10-103-B[c]3D)

REQUIREMENT	LOCATION IN APPLICATION	DATA ADEQUATE	NEED MORE INFO
Notification to Building Departments	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider: NITC Rules and Procedures Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016	X	
Procedures for Accepting Complaints	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider: NITC Rules and Procedures: Complaints Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016	X	

	Filename: Registry.pptx		
Procedures for Addressing Complaints	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider: NITC Rules and Procedures: Complaints Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016	X	

Source: California Energy Commission

CHAPTER 14:
Certification Revocation Procedures

Requirement

ATTCPs must describe procedures in writing for revoking the certification of ATTs and ATEs based upon poor quality or ineffective work, failure to perform acceptance tests, falsification of documents, failure to comply with the documentation requirements of these regulations, or other specified actions that justify decertification.

Summary of Compliance Method for Applicant

Under the general direction of CSPTC, NITC will apply the procedures for revoking an ATT or ATE certification as specified in the Rules and Procedures document published by NITC. NITC may suspend or revoke use of the certification mark. NITC will communicate in writing to the person whose privileges are being suspended or revoked and to all other persons affected by the decision. NITC reserves the right to publicize its action on its website and any of its publications. Should any person continue use of NITC's certification mark after notice of suspension or revocation, NITC shall seek full equitable and/or legal remedies.

Staff Assessment

Staff determined the procedures for revocation of certification are in compliance with the requirements set forth in Section 10-103-B(c)3E. A summary of compliance with Section 10-103-B(c)3E is found in **Table 12**.

Table 12: Summary of Application Compliance (Section 10-103-B[c]3E)

REQUIRMENT TYPE	LOCATION IN APPLICATION	DATA ADEQUATE	NEED MORE INFO
Procedures for Revocation of Certification	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider: NITC Rules and Procedures: Requirements for Maintaining Certification Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016	X	

Source: California Energy Commission

CHAPTER 15:
Quality Assurance, Independent Oversight, and Accountability

Requirement

The ATTCPs shall describe how their certification business practices include quality assurance, independent oversight, and accountability measures. These measures may include independent oversight of the certification processes and procedures, visits to building sites where certified technicians are completing acceptance tests, certification process evaluations, building department surveys to determine acceptance testing effectiveness, and expert review of the training curricula developed for Section 120.5. Independent oversight may be demonstrated by accreditation under the ANSI/ISO/IEC 17024 standard.

Section 10-103-B(c)3F does not state whether accreditation under the ISO/IEC 17024 standard demonstrates compliance with the quality assurance and accountability requirements of Section 10-103-B(c)3F. Since the ISO/IEC 17024 standard includes measures to ensure both quality assurance and accountability, it is possible that if ATTCPs are accredited, then the ATTCPs effectively meet most of the requirements of Section 10-103-B(c)3F. The ISO/IEC 17024 standard does not necessarily require site visits or building department surveys, however Section 10-103-B(c)3F lists these examples as appropriate quality assurance and accountability measures. Therefore, ATTCPs must demonstrate in detail how their program provides quality assurance and accountability.

Summary of Compliance Method for Applicant

CSPTC, in collaboration with NITC, possesses ANSI/ISO/IEC 17024 accreditation. The CSPTC generally relies on compliance to the quality assurance, independent oversight, supervision, and accountability requirements with this standard. The standard has the following quality assurance measures in ANSI/ISO/IEC 17024:2012(E):

- Section 8.3, subdivisions (a) through (d), see also Section, 9.6.3, subdivision (h): Criteria for initial certification and recertification; assessment methods for initial certification and recertification; surveillance methods and criteria (if applicable–this could include site visits); and criteria for suspending and withdrawing certification.
- Section 9.5.1; see also Section 9.9 [Complaints]: “The certification body shall have a policy and (a) documented procedure(s) for suspension or withdrawal of the certification, or reduction of the scope of certification, which shall specify the subsequent actions by the certification body.”
- Section 9.6.5, subdivisions (a) and (d): If an applicant has been decertified, the certification body, in deciding whether to recertify an applicant, “shall consider

at least" certain criteria including: on-site assessment; and confirmation of continuing satisfactory work and work experience records.

- Annex A (informative) Section A.1.3: "The certification body has a responsibility to ensure that only those persons who demonstrate competence are awarded certification."
- Sections 4.3, 5.1.1, 5.2.1, 5.2.3, 6.1.8, 6.2.1, 6.2.2.1, 6.2.2.3, 6.2.3.2, 6.3.1, 9, and 7.4; see also Annex A [informative] Sections A.2., A.3., and A.6.: These measures require: impartiality in the certification process, avoidance of conflicts of interest in the process, monitoring of examiners, maintenance of confidentiality, prevention of fraudulent examination processes, etc.
- Sections 8.4 through 8.6: These sections of the standard would require an entity (in this case the ATTCP) to demonstrate that, "in the development and review of the certification scheme, the following are included: (a) the involvement of appropriate experts…." In addition, an ATTCP "shall ensure that the certification scheme is reviewed and validated on an ongoing, systematic basis."
- Sections 10.1 and 10: Management system measures to ensure that the management system "is capable of supporting and demonstrating the consistent achievement of the requirements of [this ISO/IEC standard]."
- Sections 10.2.5 and 10.2.5.1: Compliance with this section requires an ATTCP to "establish procedures to review its management system at planned intervals, in order to ensure its continuing suitability, adequacy and effectiveness, including the stated policies and objectives related to the [fulfillment] of this [standard]."
- Sections 10.2.6 and 10.2.6.1: Compliance with this section requires internal audits to verify that the certification provider fulfills the requirements of the ISO/IEC standard. Under these requirements, ATTCPs must "establish procedures for internal audits to verify that it [fulfills] the requirements of this [standard] and that the management system is effectively implemented and maintained."
- Section 8.3, subdivisions (a) through (d); see also Section 9.6.3, subdivision (h) and Section 9.5.1.: The ISO/IEC 17024 requires measures pertaining to surveillance of certified persons if those measures are specified in the certification provider's certification scheme. In addition, ISO/IEC 17024 also requires certification providers to have a policy and documented procedures for suspension or decertification, and the certification provider must specify, in its procedures, the subsequent actions the certification provider will take relating to the suspension or decertification.

CSPTC proposes to have required audits of both the ATE and ATT as recommended by the *2013 Nonresidential Compliance Manual*. NITC will administer annual audits on behalf of the CSPTC to all ATEs. If an audit reveals suspicious activity that requires more than a desk audit, auditors reserve the right to follow up with a site visit to investigate the deficiencies. Auditors employed by NITC will have a minimum of five years of field experience working on mechanical controls and systems.

If three of the audited forms reveal deficiencies as determined by the NITC investigation, the ATE's certification will be suspended for one month. Suspensions prevent the ATE from performing any duties for any certified technicians. If the ATE corrects internal processes and is compliant with the Energy Standards, then removal of the suspension is possible after the penalty period. If the ATE completes the first year

with no suspensions, audit frequency will decrease to 1 percent of the completed forms of each type per code cycle.

While employed by an ATE, each ATT will be subject to an audit rate of five percent of its completed mechanical acceptance forms randomly by NITC with a minimum of at least five forms of each type not to exceed ten forms. Inconsistencies or discrepancies identified by NITC during an annual desk audit will be investigated and may result in a suspension of one month and/or retaking the training course. A suspension means that the ATT cannot perform any acceptance testing. A second violation will result in a three-month suspension. A third violation will result in revocation of certification. For recertification, the technician must attend the entire training course and pass the certification exam.

If during the audit process auditors determine the ATT or ATE has intentionally or otherwise participated in falsification of an acceptance form, NITC shall revoke the certification indefinitely. An appeal of revocation can be filed, but the decision of the NITC Executive Committee on reinstatement of certification will be final.

Staff Assessment

After review of the ANSI/ISO/IEC 17024 standard and CSPTC's additional quality assurance methods, independent oversight, and accountability measures, staff concluded that CSPTC adequately satisfies the requirements in Section 10-103-B(c)3F. According to CSPTC's application, auditors reserve the right to perform on-site visits, but it is not clear how frequent these on-site visits will occur. Staff encourages ATTCPs to ensure quality assurance with random on-site audits and regular compliance form checks. Future updates to the Energy Standards will provide further clarification of this requirement. A summary of compliance to Section 10-103-B(c)3F is found in **Table 13**.

Table 13: Summary of Application Compliance (Section 10-103-B[c]3F)

REQUIREMENT	LOCATION IN APPLICATION	DATA ADEQUATE	NEED MORE INFO
Quality Assurance	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016: NITC Certification Handbook for Contractors and Technicians	X	
Independent Oversight	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider	X	

	Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016: NITC Certification Handbook for Contractors and Technicians		
Accountability Measures	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016: NITC Certification Handbook for Contractors and Technicians	X	

Source: California Energy Commission

CHAPTER 16:
Certification Identification Number and Verification of ATT Certification Status

Requirement

Upon certification of an ATT, the ATTCP shall issue a unique certification identification number to the ATT. The ATTCP shall maintain an accurate record of the certification status for all ATTs that the ATTCP has certified. The ATTCP shall provide verification of current ATT certification status upon request to authorized document registration provider personnel or enforcement agency personnel to determine the ATT's eligibility to sign certificate of acceptance documentation according to all applicable requirements in Sections 10-103-B, 10-102, and 10-103(a)4, and reference joint appendix JA7.

Summary of Compliance Method for Applicant

NITC will issue a unique certification number to each certified ATT. All ATTs must carry their certification card when performing acceptance testing. All ATTs must use and be listed in the NITC managed database. The database entries will include names, addresses, dates of expiration, and examination history. This information will be searchable on the NITC website.

Should a certified person lose their certification card, then a replacement card and/or certificate may be requested using the NITC supplied affidavit form. Upon approval, the NITC will issue a duplicate NITC certification card and/or certificate.

Staff Assessment

Staff is confident that California State Pipe Trades Council intends to issue each ATT (and ATE) a unique certification number. NITC maintains ANSI/ISO/IEC 17024 compliance, which requires the same serial tracking methodology. A summary of compliance with Section 10-103-B(c)3G is found in **Table 14**.

Table 14: Summary of Application Compliance (Section 10-103-B[c]3G)

REQUIREMENT TYPE	APPLICATION LOCATION	DATA ADEQUATE	NEED MORE INFO
Issue Certification ID	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016NITC Certification Handbook for Contractors and Technicians	X	
Maintain Records of Certified ATTs	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016NITC Certification Handbook for Contractors and Technicians	X	
Provide Verification of Current ATTs Status	Filename: TN211956-1 Application for Acceptance Test Technician Certification Provider Filename: TN211956-14 Appendix F NITC Certification Handbook_06_17_2016NITC Certification Handbook for Contractors and Technicians	X	

Source: California Energy Commission

CHAPTER 17:
Staff Recommendations

Staff completed its evaluation of the CSPTC application pursuant to Section 10-103-B(f), which was submitted on January 13, 2016. Staff has determined that CSPTC's application complies with (and in some cases exceeds) the requirements of Section 10-103-B(c). Staff recommends that the CSPTC be considered for approval to become a nonresidential mechanical Acceptance Test Technician Certification Provider in accordance with the Energy Standards.

APPENDIX A: GLOSSARY

ATTCP Acceptance Test Technician Certification Provider	An agency, organization or entity approved by the Energy Commission to train and certify acceptance test technicians and acceptance test employers.
ATT Acceptance Test Technician	A Field Technician certified by an authorized acceptance test technician certification provider.
ATE Acceptance Test Employer	A person or entity that employs an acceptance test technician and is certified by an authorized acceptance test technician certification provider.
DCV Demand Control Ventilation	Demand Controlled ventilation refers to an HVAC system's ability to reduce outdoor air ventilation flow below design values when the space served is at less than design occupancy.
DxAC Direct Expansion Air Conditioning	A standard HVAC system prevalent in commercial use where the refrigerant is compressed in a compressor and then cooled in an air-cooled condenser and delivered to the building via ducting.
EIN Employer Identification Number	An EIN, also known as a Federal Tax Identification Number, is used to identify a business entity.
Energy Standards	2013 Building Energy Efficiency Standards codified in Title 24, Part 6 of the California Code of Regulations.
FDD Fault Detection and Diagnostics	Automated FDD systems ensure proper HVAC equipment operation by identifying and diagnosing common equipment problems such as temperature sensor faults, low airflow, or faulty economizer operation.

HVAC(R) Heating, Ventilation and Air Conditioning (and Refrigeration)	A common term used in the heating and cooling industry. It stands for the three (or four) functions often combined into one system in today's modern homes and nonresidential buildings.
PDF Portable Document Format	A file format introduced to ease the sharing of documents between computers and across operating system platforms to save files that cannot be modified but still need to be easily shared and printed.
TES Thermal Energy Storage	A commercial HVAC system that reduces energy consumption during peak demand periods by shifting energy consumption to nighttime by creating and storing cooled fluid or ice in tanks.